Montana Employment Projections
2010 through 2020

Produced by the Research and Analysis Bureau,
Montana Department of Labor and Industry

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Every year, the Montana Department of Labor and Industry produces employment forecasts for job growth in upcoming years. These employment forecasts are primarily used by educational institutions (including both four- and two-year colleges) and other workforce training institutions to guide decisions on programs and curricula, and to ensure that Montana's workforce can meet the demands of tomorrow's jobs. Just like the private sector relies on sales forecasts to help guide decisions on which goods to produce, education professionals rely on the Department of Labor's forecast to guide decisions on which training programs to develop. The forecasts are also used by people making career decisions to evaluate the future opportunities for various professions.

Like any forecast, the employment projections are based on previous data, trends, and knowledge that are available at the time of forecast. Because the economy is constantly changing, the forecast is unlikely to be exactly right. Instead, employment forecasts should be seen as the most likely employment growth out of many possible outcomes, given the knowledge and information available at the time of forecast. Forecasts on total employment and some larger, more stable, industries are likely to be more reliable, whereas detailed projections at the occupation level include greater error.

In previous years, rapid forecasted job growth alone could be used to anticipate worker shortages in a particular occupation or industry. However, the 2007 recession has left many Montanans unemployed and looking for work. Many industries and occupations will regain jobs in the future, but will be able to hire dislocated workers back into their old jobs rather than having to train new workers for the jobs. In addition to providing information about employment forecasts for the future, this report also provides estimates on the number of unemployed workers in each industry and occupation that will be able to fill future jobs without retraining. Looking at both the available supply of skilled workers and the future demand for workers to fill new and open positions allows workforce professionals to focus on industries and occupations where workers will require new training to fill open positions.

In general, workers with high education and skill levels were more likely to retain their jobs during the recession than workers with lower skill levels. Although the employment forecasts indicate that job growth will be fastest at the lower skill levels, there is a large pool of unemployed low-skilled labor that lost their jobs during the recession. These workers already have the skills needed to be rehired into their previous occupation. On the other hand, even though job growth is expected to be slow among high-skilled jobs, tighter labor markets are anticipated among high-skilled jobs because few high-skilled workers lost their jobs during the recession.

Description and Methodology

The Research and Analysis Bureau of the Montana Department of Labor and Industry produces projections on employment growth both by industry and by occupation. Two-year state-level projections are produced annually, while ten-year forecasts are produced biennially. Projections are also produced at the sub-state level for cities and regions in Montana, but these projections may not be available every year. This report provides two-year and ten-year forecasts for both Montana and five regions in Montana, although the industry and occupational forecasts highlighted are for Montana as a whole. Detailed regional forecasts by industry and occupation are available on our website at www.ourfactsyourfuture.org. The projections are based on historic employment data from January 1990 to December 2010. Current data from the first six months of 2011 is used to evaluate forecasts. The forecasts were developed in July and early August of 2011.

Some industries and occupations have fairly stable growth paths that have continued to perform as expected despite the recent recession, while other industries are more susceptible to changing economic conditions. For example, employment levels in the mining industry vary considerably with changing global prices for oil, energy, and commodities. Price changes at the global level are often difficult to predict, making the employment forecast for this industry fairly uncertain. However, employment growth in the health care industry has continued at a steady pace throughout the recession as Montana's aging population continues to demand more health care services. The stable employment growth in the health care industry increases the certainty of the employment forecast.

The Montana employment projections are based on various data series, including the Quarterly Census of Employment and Wages (QCEW), the Local Area Unemployment Statistics (LAUS), and the Occupational Employment Statistics (OES). The Current Employment Statistics (CES) data is also often used to evaluate various forecast options for the first six months of the forecast. The QCEW covers payroll employment in Montana and is considered the most accurate source of data because it is based on an actual count of employment from the wage records reported to Unemployment Insurance. The QCEW is used to forecast industry and total payroll employment, but does not include the approximately 40,000 workers who are self-employed or who are nonpayroll agricultural workers. Other industries are also excluded from the QCEW data, most notably railroad workers and many real estate agents that are considered self-employed.

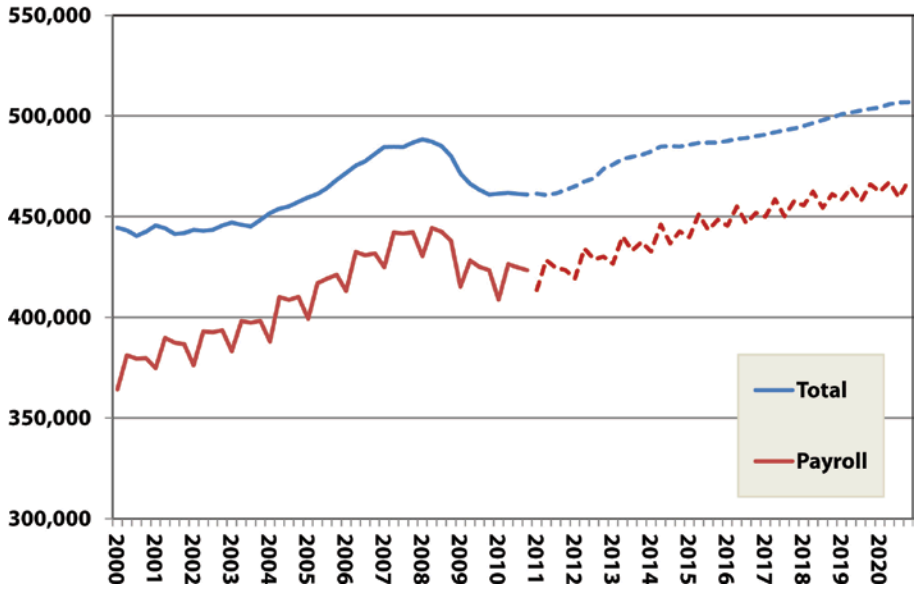
The LAUS data series includes all workers in its total employment estimate, including those excluded from the QCEW, but the LAUS data series is a model-based estimate rather than an actual count. Because the total employment data series is an estimate, the historic data includes estimation error that is magnified as the employment is projected into the future. There is also forecasting error for the payroll employment projections, but the error range is smaller because the historic data is an actual count, rather than an estimate.

Finally, the OES data series is used to separate the industry-based projections into occupations to develop occupational projections. The occupational projections include the most uncertainty because both the industry projection and the OES estimate include some error. Regardless, uncertain occupational projections provide better expectations of future growth than the alternative of no forecast estimates.

Montana Economy Overview

The Montana economy has been impacted by the global economic recession that started in December 2007 and ended in June 2009. Throughout the recession, the Montana economy outperformed the U.S. economy, with lower unemployment, smaller job losses, and stronger personal income growth than the national average. However, the U.S. economy has recovered faster than Montana. Job losses in Montana continued in many industries throughout 2010. Despite a delayed recovery, Montana has been gaining jobs since the start of 2011, and jobs in the private sector have been increasing since mid-2010.

Figure 1: Montana Total and Payroll Employment, 2000-2010 Actual, 2010-2020 Projected



During the recession, payroll employment in Montana declined 4.8% (compared to 6.3% nationally), leaving a large number of Montana workers unemployed. Job growth exiting the recession is expected to be slower than before the recession, with employment growth from 2010 to 2020 expected to average 0.9% annually compared to 1.2% per year from 2000 to 2007. At this pace, it will take at least four to five years to regain the jobs lost in recent years. Because of slow job growth, combined with the large number of existing unemployed workers plus the younger workers joining the labor force for the first time, the unemployment rate is expected to remain at high levels for several years. Figure 1 illustrates the total and payroll employment projections for Montana.

The impact of the recession varied dramatically by industry, however. The health care industry grew throughout the recession, while government and education employment were fairly stable. New jobs in these industries will need to be filled by new workers. On the other hand, job losses in construction and manufacturing were staggering, with construction losing over 30% of its pre-recession employment levels. Although these industries are projected to grow in the future, new jobs will likely be filled by currently unemployed workers who previously worked in the industry, reducing the demand for worker training programs.

Industry Demand

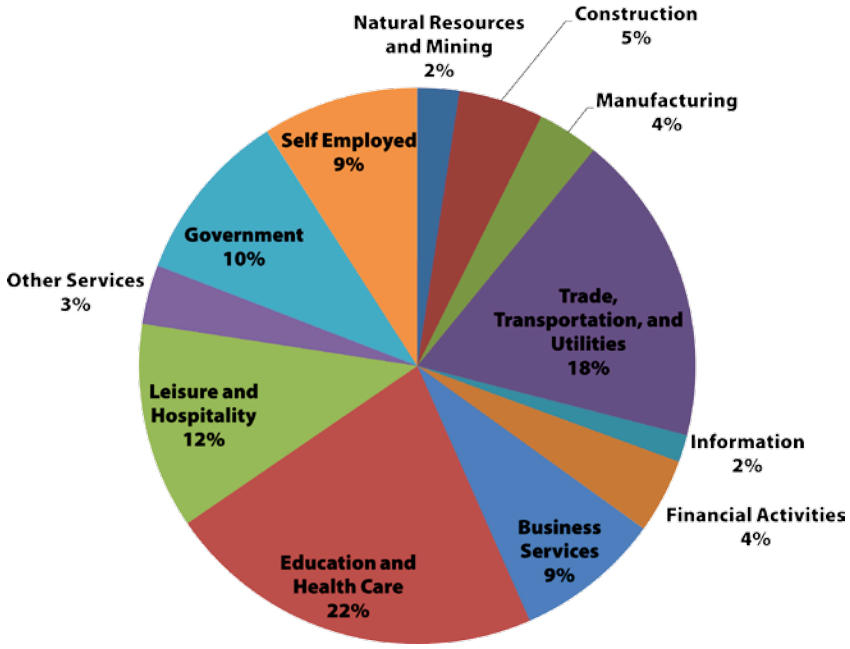
Table 2 illustrates the historic and projected job growth in Montana's industries. During the last ten years, Montana's annual job growth has averaged 1.1% for payroll jobs, and 0.3% for all jobs including the self-employed. Growth was much faster prior to the recession, with payroll jobs increasing at a pace of 2.2% annually. However, from 2007 to 2010, Montana lost approximately 17,300 payroll jobs and 23,800 total jobs because of the national recession. With slow growth expected during 2011 and 2012, Montana is not expected to regain those lost jobs until after 2014.

Table 2: Projected Job Growth in Montana's Industries

Industry	Actual Growth		Job Change 2007 to 2010	Projected Growth		Regain Pre-Recession Employment
	2000 to 2007	2000 to 2010		2010 to 2012	2010 to 2020	
Natural Resources and Mining	4.1%	2.2%	-760	3.1%	0.4%	past 2020
Construction	6.9%	1.2%	-9,556	-0.4%	2.9%	past 2020
Manufacturing	-1.2%	-3.0%	-4,040	1.0%	1.1%	past 2020
Trade, Transportation, and Utilities	1.2%	0.2%	-5,599	1.1%	0.6%	past 2020
Information	-0.5%	-0.6%	-227	0.8%	0.3%	past 2020
Financial Activities	2.3%	0.8%	-1,554	1.4%	0.8%	past 2020
Business Services	4.3%	2.6%	-1,551	1.7%	2.0%	2012
Education and Health Care	2.1%	2.2%	6,537	0.9%	0.9%	grew throughout recession
Leisure Activities	2.4%	1.2%	-2,672	2.1%	1.4%	2013
Other Services	1.1%	0.7%	-127	1.7%	0.7%	2012
Public Assistance	1.7%	1.8%	2,839	-2.3%	-0.1%	peaked in 2010, since fallen
Total Payroll	2.2%	1.1%	-17,308	1.0%	1.0%	2014
All Employment, Including Non-payroll	1.2%	0.3%	-23,795	0.8%	0.9%	2015

Over half of Montana's payroll job losses during the recession occurred in the Construction industry. After rapid employment growth of 6.9% during the housing bubble from 2000 to 2007, the Construction industry lost about 9,600 jobs from 2007 to 2010. Job losses in Construction are expected to continue through 2011, but the industry is likely to start recovery in 2012 with stronger growth in the out years. Another industry with large job losses during the recession was the Trade, Transportation, and Utilities industry, which posted job losses of 5,600 during the recession after strong annual growth of 1.2% before the recession. This industry is expected to start recovery during 2011 and 2012 as consumers resume spending at retail businesses and make purchases that were put off during the recession. However, growth is expected to be slower in the long term because of reduced credit availability and slow job and wage growth. Thus, the Trade, Transportation, and Utilities industry is unlikely to regain its pre-recession employment peak until after 2020.

Figure 3: Percent of Total Employment of Montana's Industries, 2010



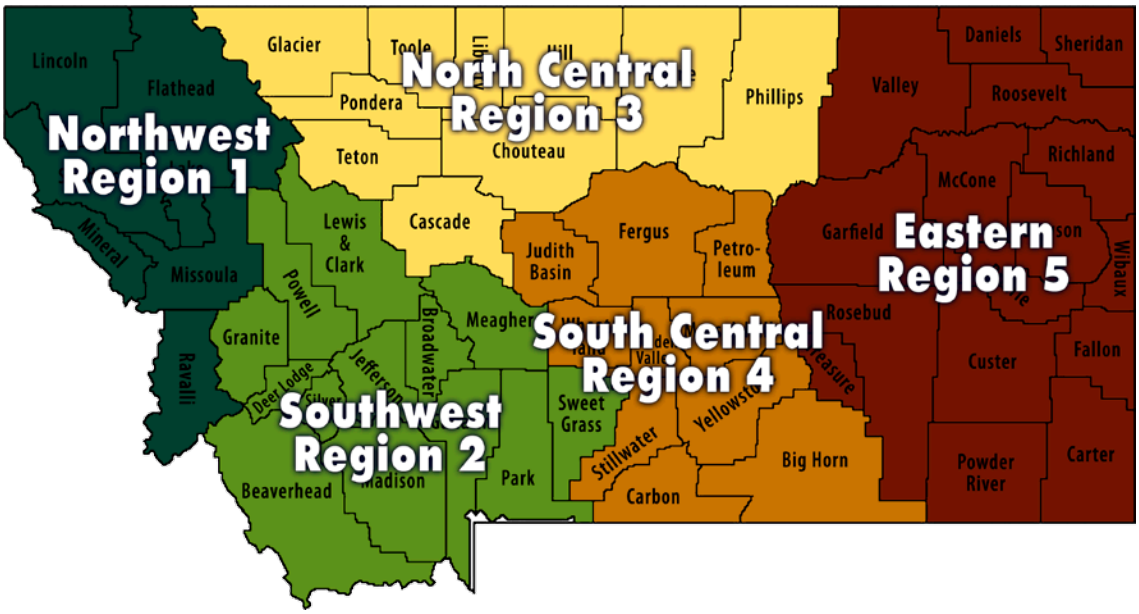
Montana's best performing sectors during the recession and beyond include Education and Health Care, Business Services, and Other Services. Education and Health Care workers comprise almost a quarter of Montana's total employment, with the majority of the jobs within Health Care. The Education and Health Care sector added over 6,500 jobs during the recession, and is expected to continue its growth in future years, although at a slower pace. The health care industry presents good job opportunities for dislocated workers who lost jobs in other industries, although retraining will likely be needed.

The Business Services industry is smaller than the Education and Health Care industry with approximately 8% of Montana's employment (Figure 3). Although job losses in this industry occurred during the recession, the industry is expected to recover quickly and regain its pre-recession peak by 2012. The strong expected growth during 2011 and 2012 can largely be attributed to temporary employment firms. Businesses often rely on temporary workers to meet work demands as the economy exits a recession, switching to permanent workers after the positive economic climate is more certain.

Montana's Regions

Figure 4 illustrates the five regions of Montana used for job projections. The Northwest and Southwest portions of Montana were the most impacted during the 2007 recession, largely because these areas were more reliant on the hard-hit industries of construction and manufacturing when compared to other portions of the state. In contrast, the Eastern portion of Montana had the fewest job losses because of a heavy reliance on two industries that weathered the recession fairly well, energy and agriculture.

Figure 4: Montana Job Service Regions



The Northwest region was the first to enter the recession, with job losses occurring mid-2007 because of the decline in demand for the wood products used in home construction. Job losses in the Northwest occurred prior to the official start date of the recession, December 2007. The Northwest region lost approximately 12,000 jobs between 2007 and 2010, or about 8% of its 2007 employment. The Northwest is the only region in the state where job losses continued during 2011. (Figure 5)

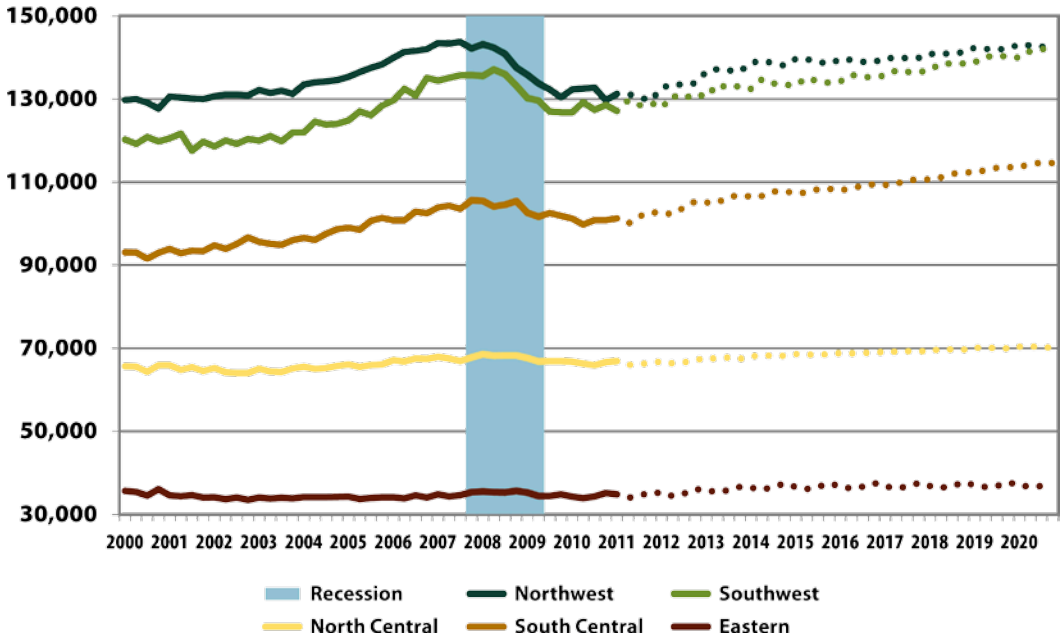
For all other Montana regions, employment peaked in the summer of 2008, and job losses did not occur until the fall of 2008, about the same time as the crux of the financial crisis and the large drop in global stock markets. The Southwestern region lost approximately 6% of its 2007 employment level, or about 8,000 jobs, before starting its turnaround in the fall of 2010. Job gains in the Southwestern region have averaged over 1,000 per month for the first six months of 2011, making its recovery faster than anticipated. The central regions of Montana are expected to regain their 2007 employment levels the soonest, while the Eastern region gained jobs from 2007 to 2010.

Figure 5: Recession Performance and Forecasts for Montana's Five Regions

	Northwest	Southwest	North Central	South Central	Eastern
2007 Employment	143,631	135,471	67,326	104,099	34,606
2010 Employment	131,665	127,620	66,671	100,596	34,786
Job Loss	-11,965	-7,851	-655	-3,504	179
Percent of State's 2010 Employment	29%	28%	14%	22%	8%
Expected Annual Job Growth, 2011 to 2012	1,218	1,449	464	1,583	483
Expected Annual Job Growth, 2013 to 2020	1,240	1,421	471	1,411	298
Regain 2007 Employment	2020	2016	2012	2013	no losses

Employment growth is expected in all of Montana's regions in the future, with the fastest growth in the South Central region, which includes Billings. Recovery in the Northwestern region is expected to be slow. Figure 6 illustrates the historic and projected performance of the five regions.

Figure 6: Montana Employment by Region, Actual 2000 to 2010, Forecasted 2011 to 2020



Occupational Demand

With the Leisure Activities industry, which includes restaurants and bars, having among the fastest industry growth rates exiting the recession, it is not surprising that Food Preparation and Serving Related occupations top the list for the fastest job growth. The job forecasts for occupational groups are shown in Figure 7. Food Preparation and Serving Related occupations comprise approximately 10% of Montana's 2010 employment and are among the lowest paid jobs in Montana. Food Preparation and Serving Related occupations suffered during the recession, with estimated job losses over 1,600. Even with job growth of about 680 jobs per year during 2011 and 2012, and then 575 jobs per year after, it will take several years to rehire all of the dislocated Food Preparation and Serving Related workers that lost jobs during the recession.

Other occupational groups are similar in that strong job growth will serve to rehire unemployed workers, but are unlikely to require newly trained workers. Office and Administrative Support occupations are found in nearly every industry and represent approximately 15% of all jobs in Montana. However, this occupational group also suffered large job losses during the recession of over 3,400 workers. Even with strong job growth exiting the recession, Office and Administrative Support occupations are not expected to regain their 2007 employment level until past 2016. The Production, Transportation and Material Moving, and Construction and Extraction occupational groups are also not expected to return to the 2007 employment peak before 2020. These occupational groups likely will continue to have excess labor throughout the next decade.

Other occupational groups, however, will require new workers to be trained for new positions. Health care and personal services workers posted no losses during the recession, and are expected to add significant jobs both in the next few years and in the long term. In addition to the occupational categories with no losses during the recession, there are also a few occupational categories expected to regain their job levels by 2014; job training for new workers will be needed in the out-years.

Figure 7: Montana Projected Job Growth Compared to Recession Losses by Occupational Group, 2010 through 2020

SOC Code	Occupational Category	2010 Average Wage	Recession Loss	Annual Gain 2011-2012	Annual Gain 2013-2020	Recover Peak
35-0000	Food Preparation and Serving Related	19,666	-1,666	678	576	2013
41-0000	Sales and Related	29,657	-3,950	613	387	2019
43-0000	Office and Administrative Support	29,398	-3,437	475	579	2016
39-0000	Personal Care and Service	21,927	71	260	247	no losses
25-0000	Education, Training, and Library	37,710	986	223	139	no losses
53-0000	Transportation and Material Moving	33,186	-2,526	217	159	past 2020
29-0000	Healthcare Practitioners and Technical	63,836	1,326	211	331	no losses
31-0000	Healthcare Support	24,635	941	201	282	no losses
49-0000	Installation, Maintenance, and Repair	39,435	-1,365	164	152	2018
37-0000	Building and Grounds Cleaning and Maintenance	23,213	-1,137	163	190	2016
51-0000	Production	32,843	-2,788	157	143	past 2020
47-0000	Construction and Extraction	40,393	-7,913	110	662	past 2020
13-0000	Business and Financial Operations	52,648	-189	94	206	2012
27-0000	Arts, Design, Entertainment, Sports, and Media	34,811	-279	88	71	2013
15-0000	Computer and Mathematical	53,694	-89	75	104	2012
21-0000	Community and Social Services	34,200	414	72	101	no losses
11-0000	Management	74,019	-1,626	65	103	past 2020
17-0000	Architecture and Engineering	61,504	-307	45	93	2014
23-0000	Legal	58,481	-75	9	37	2013
33-0000	Protective Service	37,702	105	-16	82	no losses
45-0000	Farming, Fishing, and Forestry	31,698	-310	-16	-6	past 2020
19-0000	Life, Physical, and Social Science	47,251	311	-137	-9	no losses

Source: Occupational Projections, 2010 to 2012 and 2010 to 2020, Research and Analysis Bureau. OES, 2010, Bureau of Labor Statistics

Protective Service jobs, Farming, Fishing, and Forestry jobs, and Life, Physical, and Social Science occupations are not expected to increase in the next two years. These types of workers are often employed by federal and state governments. Government employment in Montana has been on the decline since mid-2010 and is expected to slowly decline in the next ten years as policy makers attempt to bring greater balance to the federal budget.

The aforementioned large categories of occupations each include many more detailed occupations. Figure 8 illustrates the ten fastest and ten slowest growing of these detailed occupations. Many of these occupations had large recession losses, and the job gain in the next few years will work towards re-employing unemployed workers in the field. However, home health care occupations continued to add workers during the recession. There is not a large pool of unemployed workers already trained for these positions – new workers need to be trained to meet the job demand for health care occupations.

As for the lowest ten occupations that are expected to lose jobs, many of these occupations are primarily employed by government, particularly federal government. For example, most Forest and Conservation Technicians are employed by the federal government. As mentioned above, government employment hit a peak in 2010 and has been declining since. Government employment is expected to continue to contract with lower federal government spending.

Figure 8: Montana Projected Change for Fastest and Slowest Growing Occupations

Top Ten Occupations Adding Jobs for the Next Two Years						
	SOC Code	Occupation Title	2010 Wage	Recession Change	Annual Gain 2011-2012	Annual Gain 2013-2020
1	41-2011	Cashiers	19,471	(776)	205	121
2	41-2031	Retail Salespersons	24,620	(1,174)	204	116
3	35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	18,783	(279)	156	134
4	35-3031	Waiters and Waitresses	18,642	(448)	145	125
5	43-3031	Bookkeeping, Accounting, and Auditing Clerks	30,626	(791)	111	149
6	31-1011	Home Health Aides	20,506	330	96	121
7	35-3011	Bartenders	18,120	(280)	85	67
8	43-4051	Customer Service Representatives	31,270	(151)	84	95
9	53-3032	Truck Drivers, Heavy and Tractor-Trailer	38,180	(644)	76	66
10	37-3011	Landscaping and Groundskeeping Workers	25,023	(220)	76	100
Lowest Ten Occupations Losing Jobs for the Next Two Years						
	SOC Code	Occupation Title	2010 Wage	Recession Change	Annual Gain 2011-2012	Annual Gain 2013-2020
1	19-4093	Forest and Conservation Technicians	33,791	*	(99)	-35
2	43-4199	Information and Record Clerks, All Other	32,885	29	(29)	-15
3	13-1199	Business Operations Specialists, All Other	51,968	91	(20)	11
4	33-3051	Police and Sheriff's Patrol Officers	44,273	99	(15)	9
5	43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	38,601	(126)	(14)	-14
6	43-4071	File Clerks	23,701	(55)	(13)	-14
7	45-4022	Logging Equipment Operators	35,576	(137)	(13)	-12
8	45-4021	Fallers	37,723	*	(13)	-11
9	19-1029	Biological Scientists, All Other	58,916	42	(12)	-2
10	33-3021	Detectives and Criminal Investigators	68,977	50	(12)	-1

**** Estimates suppressed due to confidentiality concerns.***

Occupational job growth only illustrates a portion of job opportunities for workers, however. Many of Montana's workers are nearing retirement, and there will also be opportunities to replace these workers. Also, open positions are created whenever a worker seeks a new job. The employment forecasts also include an estimate for the number of annual openings that result from a worker leaving a position. However, some of the openings may be created when a worker leaves their position for another position within the same occupation. In this case, only one new worker is needed for the position, although there are two openings.

Figure 9 illustrates the occupations with the most openings for both the two-year and ten-year projection timeline. Many of the occupations are similar to those shown for the fastest growing occupations. Also, many of the occupations listed in Figure 9 are occupations with a large number of workers in Montana, so replacement needs are also large.

Figure 9: Montana Projections for Occupations with the Most Openings

Occupations with the Most Expected Openings, 2011 and 2012					
	SOC Code	Occupation Title	Annual Openings from Growth	Annual Replacement Needs	Total Workers Needed Annually
1	41-2011	Cashiers	205	797	1,002
2	41-2031	Retail Salespersons	204	465	669
3	35-3031	Waiters and Waitresses	145	513	658
4	35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	156	165	321
5	43-3031	Bookkeeping, Accounting, and Auditing Clerks	111	143	254
6	35-3011	Bartenders	85	154	239
7	43-4051	Customer Service Representatives	84	142	226
8	35-2021	Food Preparation Workers	36	182	218
9	41-1011	First-Line Supervisors/Managers of Retail Sales Workers	66	137	203
10	29-1111	Registered Nurses	72	127	199
Occupations with the Most Expected Openings, 2013 to 2020					
	SOC Code	Occupation Title	Annual Openings from Growth	Annual Replacement Needs	Total Workers Needed Annually
1	41-2011	Cashiers	121	555	676
2	35-3031	Waiters and Waitresses	125	477	602
3	41-2031	Retail Salespersons	116	431	547
4	35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	134	211	345
5	43-3031	Bookkeeping, Accounting, and Auditing Clerks	149	147	296
6	29-1111	Registered Nurses	120	162	282
7	43-4051	Customer Service Representatives	95	146	241
8	35-3011	Bartenders	67	164	231
9	47-2031	Carpenters	140	82	222
10	53-3032	Truck Drivers, Heavy and Tractor-Trailer	66	127	193

Projected Labor Demand by Education Level

The majority of Montana's jobs do not require a post-high school education to perform. The bias towards lower skilled jobs in Montana's economy is expected to continue in the next ten years. Jobs requiring only short- to moderate-term on-the-job training are projected to grow by about 2,500 jobs per year, or at about 1% annually through 2020. In comparison, jobs requiring a bachelor's degree or higher are expected to grow at about 600 to 800 jobs per year, or about 0.9% annually through 2020. (Figure 10)

Labor markets are expected to be tightest among higher-skill jobs, because the recession disproportionally impacted workers with lower levels of education and training. The national unemployment rate for workers with a college degree peaked at a mere 5.1% during the recession. In comparison, workers without a high school degree have faced an unemployment rate higher than 14% for much of the recession. In Montana, about 23,000 jobs requiring only on-the-job training or work experience were lost. It will take many years to re-employ these workers, even though about 3,000 new lower-skill jobs are expected to be added each year. In comparison, jobs requiring some type of post-high school education did not show overall losses. The roughly 1,000 jobs in this category added annually will need to be filled by newly trained workers.

Figure 10: Montana Projected Job Growth and Recession Losses by Education and Training Category

Education/Training Category	Percent of Jobs	Recession Change	Annual Job Growth 2010-2012	Annual Job Growth 2010-2020	Years to Peak
Short to Moderate On-the-Job Training	55%	(15,959)	2,514	2,537	2016
Long-Term On-the-Job Training or Work Experience	16%	(7,415)	445	802	2020
Associate or Vocational Degree	11%	286	283	477	no losses
Bachelor's Degree or Higher	19%	(78)	608	841	2011

Post-secondary education institutions and researchers often use labor projections to evaluate which programs will have increased demand in the future. Figure 11 shows the top 20 occupations requiring a post-secondary degree with the highest projected growth in the next ten years.

Figure 11: Occupations Requiring Higher Education with Highest Projected Worker Needs, 2010-2020

	SOC Code	Occupation	Required Education	Job Change, 2007-2010	2010-2020 Projections		
					Annual Growth	Annual Replacements	Total Annual Worker Needs
1	29-1111	Registered Nurses	Associate	571	110	155	266
2	11-1021	General and Operations Managers	Bachelor's or higher	-547	30	148	178
3	25-2021	Elementary School Teachers	Bachelor's	285	37	109	146
4	25-2031	Secondary School Teachers	Bachelor's	135	5	118	122
5	13-2011	Accountants and Auditors	Bachelor's	-65	65	55	120
6	25-3099	Teachers and Instructors, All Other	Bachelor's	23	24	54	77
7	23-1011	Lawyers	Professional	-41	23	51	74
8	13-1199	Business Operations Specialists, All Other	Bachelor's	91	5	69	74
9	15-1041	Computer Support Specialists	Associate	-18	13	40	53
10	13-1079	Human Resources and Training Specialists, All Other	Bachelor's	18	18	28	46
11	13-1051	Cost Estimators	Bachelor's	-135	24	22	46
12	25-2022	Middle School Teachers	Bachelor's	84	11	34	44
13	19-4093	Forest and Conservation Technicians	Associate	*	-48	92	44
14	17-2051	Civil Engineers	Bachelor's	-26	22	21	43
15	15-1081	Network Systems and Data Communications Analysts	Bachelor's	15	23	15	38
16	27-3031	Public Relations Specialists	Bachelor's	29	17	21	37
17	11-9021	Construction Managers	Bachelor's	-174	23	13	36
18	29-1051	Pharmacists	Professional	-14	14	22	35
19	11-1011	Chief Executives	Bachelor's or higher	-65	-3	36	33
20	21-1021	Child and School Social Workers	Bachelor's	30	7	27	33

Projected Job Growth for Special Segments of Jobs

Economic developers and workforce professionals often are interested in the future outlook of Montana jobs, especially the jobs that are rapidly growing, are rapidly declining, pay high wages, or meet other policy goals. Below are the job projections for green jobs, jobs requiring a high knowledge of Science, Technology, Engineering, or Math (STEM jobs), and jobs in the health care sector.

Green Jobs:

Green jobs are jobs where the work effort results in positive benefits to the environment, such as collecting recycling, generating renewable energy, restoring old mine sites, or protecting the environment from future damage. The Montana Department of Labor and Industry recently conducted a survey to determine the level of green jobs in Montana. Approximately 4.5% of Montana's jobs are green, and green jobs tend to pay higher-than-average wages compared to all jobs. However, the wage differential for green jobs is likely because green jobs require higher levels of experience, certification, or licensure than all Montana jobs as a whole, not because of the greenness of the job itself. More information on green jobs and this research can be found at www.researchingthegreeneconomy.com.

Figure 12: Employment Projections for Montana Green Jobs

	Annual Job Gain	Annual Replacement Needs	Total Openings
2011-2012	113	425	538
2012-2000	263	562	825

Green jobs are expected to grow at about 100 jobs per year through 2012, then 260 jobs per year through 2020. With replacement needs, the total openings are expected to exceed 500 per year, as shown in Figure 12.

The green jobs that are expected to grow the most within the next ten years are shown in Figure 13. Many green jobs are expected within the construction and trades occupations. As discussed previously, construction had significant job losses during the last recession, and a large supply of under-utilized labor may exist to fill the projected jobs in construction. It is difficult to determine whether there will be a shortage of workers for green jobs, however, as not all of the dislocated workers will possess the specific skills and certifications needed to fill green jobs.

Figure 13: Green Occupations with the Largest Projected Job Growth, 2010 to 2020

	SOC Code	Occupation	Training Required	2010 Wage	Green Job Growth 2010 to 2020
1	49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Postsecondary vocational training	$38,510	228
2	47-2111	Electricians	Long-term OJT	$50,463	124
3	37-3011	Landscaping and Groundskeeping Workers	Short-term OJT	$25,023	82
4	47-2131	Insulation Workers, Floor, Ceiling, and Wall	Moderate OJT	$32,668	68
5	51-8031	Water and Liquid Waste Treatment Plant and System Operators	Long-term OJT	$32,771	68
6	47-2061	Construction Laborers	Moderate OJT	$35,487	66
7	51-9199	Production Workers, All Other	Moderate OJT	$23,636	65
8	47-2152	Plumbers, Pipefitters, and Steamfitters	Long-term OJT	$51,299	59
9	53-7081	Refuse and Recyclable Material Collectors	Short-term OJT	$31,427	58
10	47-1011	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	Work Experience	$53,417	52
11	47-4041	Hazardous Materials Removal Workers	Moderate OJT	$31,496	48
12	49-9099	Installation, Maintenance, and Repair Workers, All Other	Moderate OJT	$33,836	48
13	17-2051	Civil Engineers	Bachelor's degree	$65,368	43
14	47-2121	Glaziers	Long-term OJT	$32,600	40
15	47-2031	Carpenters	Long-term OJT	$35,638	37

STEM Jobs:

STEM jobs are those that require a high knowledge level of Science, Technology, Engineering, or Math (STEM). STEM jobs are important because they tend to have higher levels of pay, and because high concentrations of STEM jobs are associated with increased technology innovations and discoveries that lead to patents. Workforce and education professionals are also interested in the projections for STEM jobs so that institutions of higher learning are appropriately planning for the future demand for STEM classes and training.

O*Net is an occupational database sponsored by the U.S. Department of Labor that includes information on the knowledge required to perform an occupation. Using the O*Net database, occupations were identified as STEM if they required a knowledge level that was in the top 10% of occupations in the following knowledge categories: economics and accounting, computers and electronics, engineering and technology, mathematics, physics, chemistry, or biology. A total of 255 occupations were selected that met the STEM criteria, representing approximately 34% of Montana's occupations and about 23% of Montana's jobs.

Montana STEM jobs are expected to grow at a rate that is slightly slower than all jobs for the next two years, but growth is then expected to accelerate after 2012 to about 1.1% gain per year. With replacement needs, the number of STEM openings is expected to be 2,700 during 2011 and 2012 and 3,400 per year in the out-years (Figure 14). STEM jobs weathered the recession better than all jobs; during the recession from 2007 to 2010, STEM jobs added about 1,100 positions.

Figure 14: Projected Job Growth and Replacement Needs for Montana STEM Jobs

	Job Growth	Replacement Needs	Total
2011 and 2012	728	2,004	2,732
2013 to 2020	1,204	2,233	3,437

STEM jobs with the fastest expected job growth are shown in Figure 15. Many on the list do not require a post-secondary education, yet still require a high level of economics and accounting knowledge. Pharmacists have the highest education requirement of the fastest growing STEM jobs.

Figure 15: Montana Job Projections for Top Fifteen Fastest Growing STEM Jobs

	SOC Code	Occupation Title	Minimum Education Requirement	2010 Average Wage	2007 to 2010 Job Change	Annual Job Gain, 2011 and 2012	Annual Job Gain, 2012 to 2020	Requires a High Level in this Subject
1	43-3031	Bookkeeping, Accounting, and Auditing Clerks	Moderate OJT	30,626	-791	111	149	Economics and Accounting
2	29-1111	Registered Nurses	Associate	57,860	571	72	120	Biology
3	13-2011	Accountants and Auditors	Bachelor's	54,263	-65	51	68	Economics and Accounting, Mathematics
4	43-1011	First-Line Supervisors/Managers of Office and Administrative Support Workers	Work experience	44,258	-100	42	42	Economics and Accounting
5	49-3023	Automotive Service Technicians and Mechanics	Postsecondary vocational training	34,919	-147	29	15	Physics
6	11-1021	General and Operations Managers	Bachelor's or higher	80,846	-547	28	30	Economics and Accounting
7	41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	Work experience	46,220	-330	27	39	Economics and Accounting
8	15-1081	Network Systems and Data Communications Analysts	Bachelor's	44,624	15	22	24	Computers and Electronics
9	41-3021	Insurance Sales Agents	Postsecondary vocational training	56,188	-81	20	14	Economics and Accounting
10	13-2072	Loan Officers	Moderate OJT	55,562	-37	18	14	Economics and Accounting
11	43-3021	Billing and Posting Clerks and Machine Operators	Short OJT	30,014	-17	17	23	Economics and Accounting
12	49-9041	Industrial Machinery Mechanics	Long OJT	49,247	-58	15	11	Engineering and Technology
13	15-1071	Network and Computer Systems Administrators	Bachelor's	52,762	9	14	15	Computers and Electronics
14	29-1051	Pharmacists	Professional degree	96,398	-14	13	14	Economics and Accounting, Computers and Electronics, Chemestry, Biology
15	15-1041	Computer Support Specialists	Associate	*	-18	12	13	Computers and Electronics

Health Care Jobs:

The Health Care industry continued to add jobs through the recession and is expected to continue this job growth in the future as Montana's aging population continues to demand more health care services. Unlike other industries, the health care industry does not have a pool of available, unemployed, skilled workers that lost their jobs in the past few years that are willing to fill new jobs in the future. The health care industry must train new workers for new open positions.

Nurses, doctors, and technicians involved in the provision of health care services are organized into two general occupational groups – Healthcare Practitioners and Technical Occupations and Healthcare Support Occupations. Within these healthcare specific occupations, there are nine occupations that are likely to be the hardest to fill in the next ten years, and which provide good employment opportunities for dislocated workers who are willing to be trained for a new career. These nine occupations are shown in Figure 16. All of these positions had employment growth during the recession from 2007 to 2010, and are expected to continue to grow in the future by at least five new jobs per year. With replacements, at least ten positions will be open annually in each of the nine occupations. Only Home Health Aides can be trained with short on-the-job experience. Most require at least a two-year training program.

Figure 16: Hardest to Fill Health Care Positions, 2010 to 2020 Projections

	SOC Code	Occupation Title	2010 Average Wage	Minimum Education Required	Job Change, 2007 - 2010	Annual Job Growth, 2011 and 2012	Annual Replacement Needs	Annual Job Growth, 2013 to 2020	Annual Replacement Needs, 2012 to 2020
1	29-1071	Physician Assistants	85,472	Master's	82	8	6	10	7
2	29-1111	Registered Nurses	57,860	Associate	571	72	127	120	162
3	29-1123	Physical Therapists	67,140	Master's	47	8	10	12	12
4	29-2021	Dental Hygienists	64,655	Associate	53	9	13	11	15
5	29-2061	Licensed Practical and Licensed Vocational Nurses	35,662	Postsecondary vocational training	189	22	95	37	97
6	29-9091	Athletic Trainers	32,296	Bachelor's	1	5	4	5	5
7	31-1011	Home Health Aides	20,506	Short OJT	330	96	33	121	42
8	31-1012	Nursing Aides, Orderlies, and Attendants	23,653	Postsecondary vocational training	330	46	54	76	67
9	31-9091	Dental Assistants	30,782	Moderate OJT	112	20	18	27	21
10	31-9092	Medical Assistants	27,568	Moderate OJT	93	22	10	26	12

OJT stands for on-the-job training

In addition to the occupations that provide health care services, there are a number of other occupations in the health care industry, such as accountants, managers, human resource specialists, and analysts. In fact, about 45% of the workers in health care work in an occupation that is outside the two general healthcare occupational groups. The fifteen occupations with the fastest expected growth in the next ten years in the health care industry, but that are not considered traditional health care occupations, are shown in Figure 17. Secretaries, child care workers, and accountants and billing clerks are also needed in the health care industry.

Figure 17: Top Fifteen Non-Healthcare Providing Jobs in the Health Care Industry, 2010 to 2020

	SOC Code	Occupation Title	Projected Annual Job Growth
1	39-9021	Personal and Home Care Aides	64.1
2	43-6013	Medical Secretaries	43.7
3	21-1093	Social and Human Service Assistants	24.2
4	43-6014	Secretaries, Except Legal, Medical, and Executive	13.1
5	39-9011	Child Care Workers	12.4
6	43-4171	Receptionists and Information Clerks	11.5
7	43-3021	Billing and Posting Clerks and Machine Operators	11.0
8	21-1014	Mental Health Counselors	10.8
9	39-9032	Recreation Workers	10.8
10	21-1011	Substance Abuse and Behavioral Disorder Counselors	10.3
11	43-3031	Bookkeeping, Accounting, and Auditing Clerks	9.7
12	25-2011	Preschool Teachers, Except Special Education	9.3
13	35-2012	Cooks, Institution and Cafeteria	9.3
14	43-9061	Office Clerks, General	9.1
15	43-1011	First-Line Supervisors of Office and Administrative Workers	7.0

Appendix A: Detailed Industry Estimates for Montana's Industries

Health Care, Education, and Government

Health Care, Education, and Government are all large industries in Montana based on the size of their employment. These projections place Health Care and Education public employees into their respective industries. Government employment does not include public Health Care and Education workers. Health Care comprises 15% of Montana's total payroll employment, while Government represents 12% of total employment. Also, all three of these industries have fairly stable employment growth, and are counter-cyclical in the sense that they all added employment during the 2007 recession. In recovery, both Health Care and Education have continued to add employment, while Government has been losing jobs since mid-2010.

The aging of Montana's population and the future of government spending are the two forces that will influence Health Care, Education, and Government employment in the future. Montana's population is getting older; the percent of the population over 65 is expected to grow, and increase the demand for health care, while the number of children and young adults entering the education system will stay level or even decrease, reducing the demand for education. The aging of the population also influences Government employment because of a reduced tax burden on retiree income when compared to wage income, and because of the increased demands on social support programs from older workers. At the same time, federal government discussions to bring greater balance to the federal budget will likely result in funding cuts to all three of these industries.

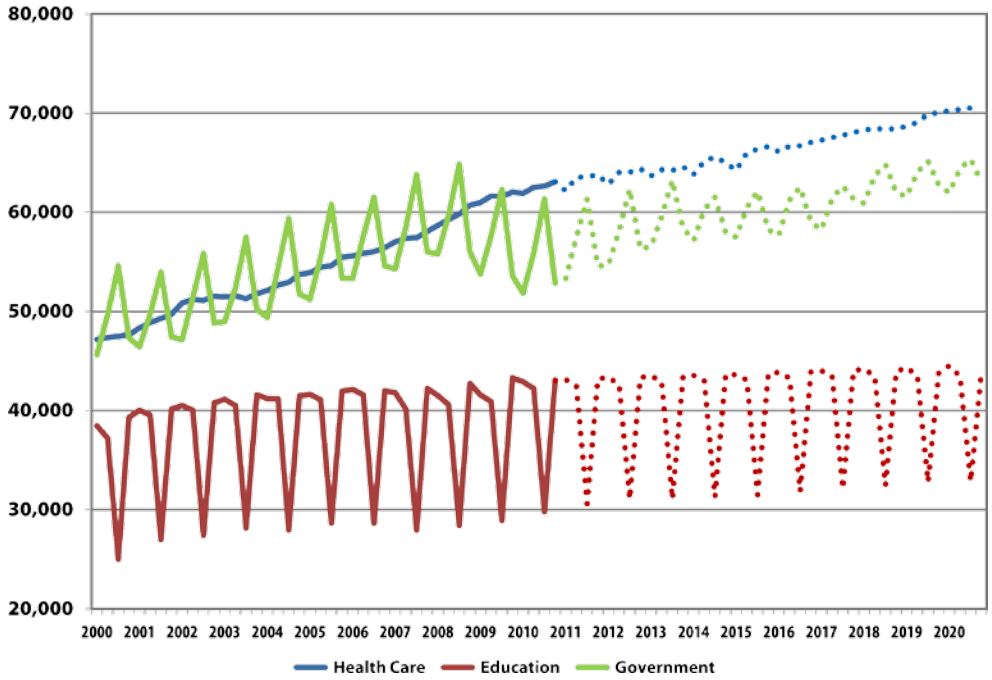
Figure A1: Projection Details, 2010 to 2020, Health Care, Education, and Government

	Health Care	Education	Government*
Industry Share of Total 2010 Employment	14.8%	9.3%	12.0%
Growth Rate, 2000 to 2010	2.8%	1.2%	1.6%
Projected Growth, 2010 to 2020	1.2%	0.4%	-0.9%
Recession Job Loss	5,072	1,465	2,839
Average Annual Job Growth, 2010 to 2020	791	163	-59

**Not including Public Health and Education Employees*

Figure A1 shows the expected growth rates for Health Care, Education, and Government for the next ten years. The cutbacks in government funding and the aging of the population are expected to result in slower growth than that seen in the past decade for all three of these industries. Only Government is expected to see a reduction in employment in the next few years. As shown on Figure A2, much of the decline in Government jobs happens during 2011 and 2012 as employment decreases from the 2010 heights resulting from counter-cyclical government spending, stimulus spending, and employment added from the decennial Census.

Figure A2: Employment for Health Care, Educations, and Government



Large Private Industries

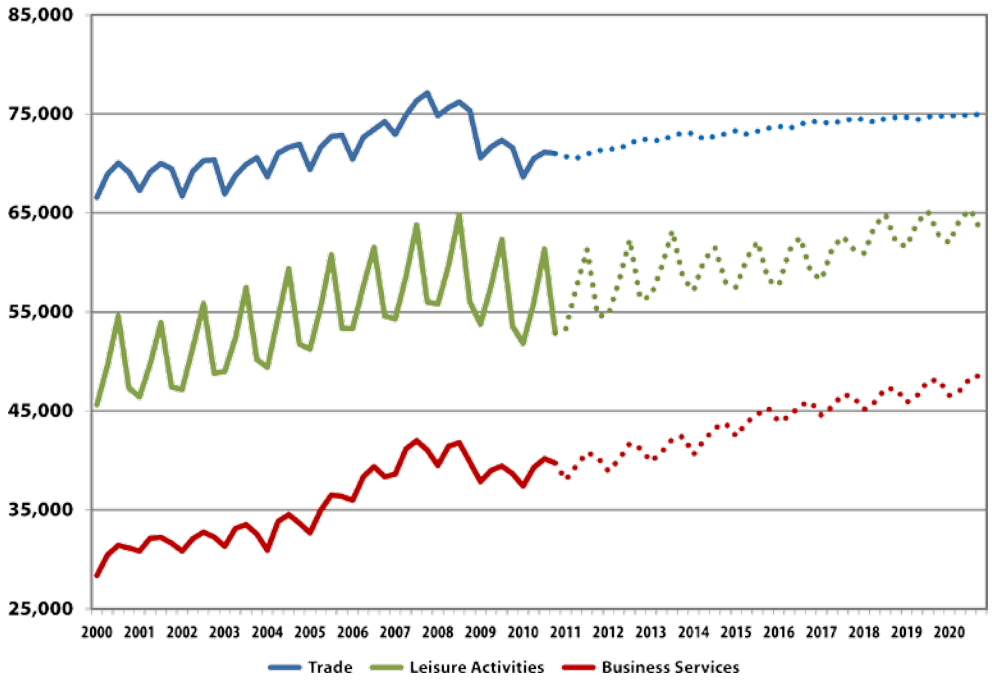
Trade (including both Retail and Wholesale Trade), Leisure Activities, and Business Services are three of Montana's largest private industries in terms of employment. Trade makes up 16% of total employment, making it the largest employing industry in Montana. Leisure Activities, which includes tourism-related businesses in addition to hotels, restaurants, bars, and entertainment businesses, comprised 9% of total payroll employment in 2010.

The Trade and Leisure Activities sectors will be negatively impacted by reduced consumer spending in the future due to an increased savings rate and the loss of wealth during the 2007 recession. Some tourism businesses may see benefits from consumers taking vacations closer to home in order to conserve their budgets, but growth will likely be slower in future years than it was in the years leading up to the recession. The Trade industry lost a significant number of employees during the 2007 recession and will take some time before regaining its employment peak.

Figure A3: Projection Details, 2010 to 2020, Trade, Leisure, and Business Services

	Wholesale and Retail Trade	Leisure Activities	Business Services
Industry Share of Total 2010 Employment	16.6%	13.1%	9.3%
Growth Rate, 1990 to 2010	1.3%	2.4%	4.7%
Projected Growth, 2010 to 2020	0.6%	1.4%	2.0%
Recession Job Loss	-5,002	-2,672	-1,551
Average Annual Job Growth, 2010 to 2020	456	822	849

Figure A4: Employment Projections for Montana's Large Private industries



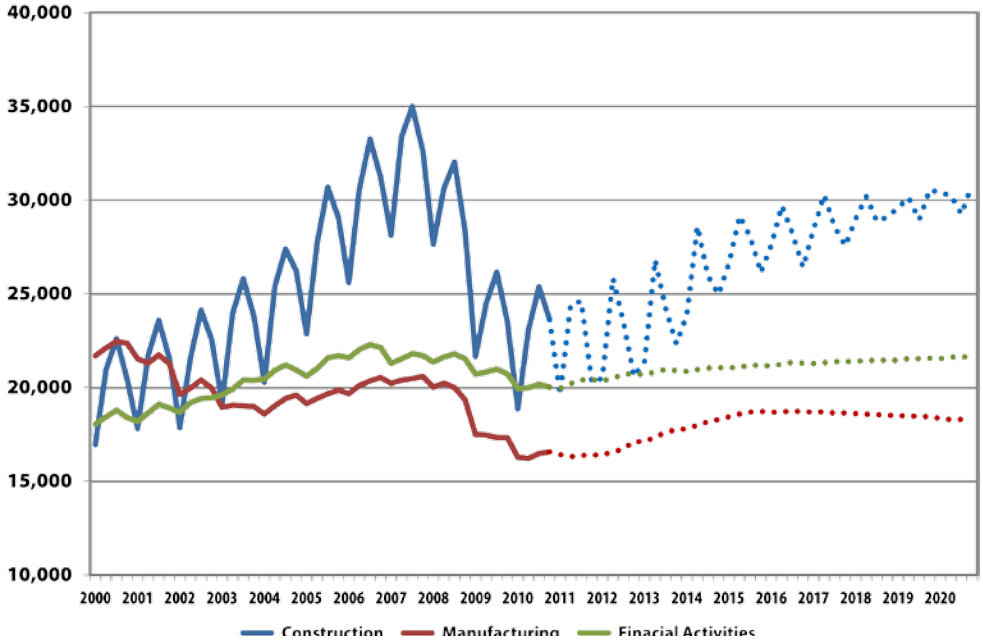
Mid-Sized Private Industries

Montana's mid-sized industries of Construction, Manufacturing, and Financial Activities were the worst hit industries during the 2007 recession. The housing market crash dramatically slashed the demand for construction and for wood products, which comprises a sizeable chunk of Montana's manufacturing base. The Financial Activities sector, which includes both real estate and finance was also harmed by the poor housing market, with additional lay-offs occurring because of the financial crisis. Finally, the general economic slowdown following the housing and financial problems decreased demand for Montana manufactured products.

Figure A5: Projection Details, 2010 to 2020, Trade, Leisure, and Business Services

	Construction	Manufacturing	Financial Activities
Industry Share of Total 2010 Employment	5.4%	3.9%	5.0%
Growth Rate, 1990 to 2010	3.9%	-0.8%	1.8%
Projected Growth, 2010 to 2020	2.9%	1.1%	0.8%
Recession Job Loss	-9,556	-4,040	-1,554
Average Annual Job Growth, 2010 to 2020	745	192	158

Figure A6: Employment Projections for Montana's Mid-Sized Private industries



Smaller Private Industries

Despite being small in terms of employment, the industries of Agriculture, Mining, and Utilities and Transportation are important to the Montana economy because they provide many of our exports. Exports bring in new money from out-of-state, which can then be used to support employment growth in other industries. Information and Other Services are the two other industries included in this section. Together, these small industries make up 11% of Montana's total employment, but remain engines for economic growth.

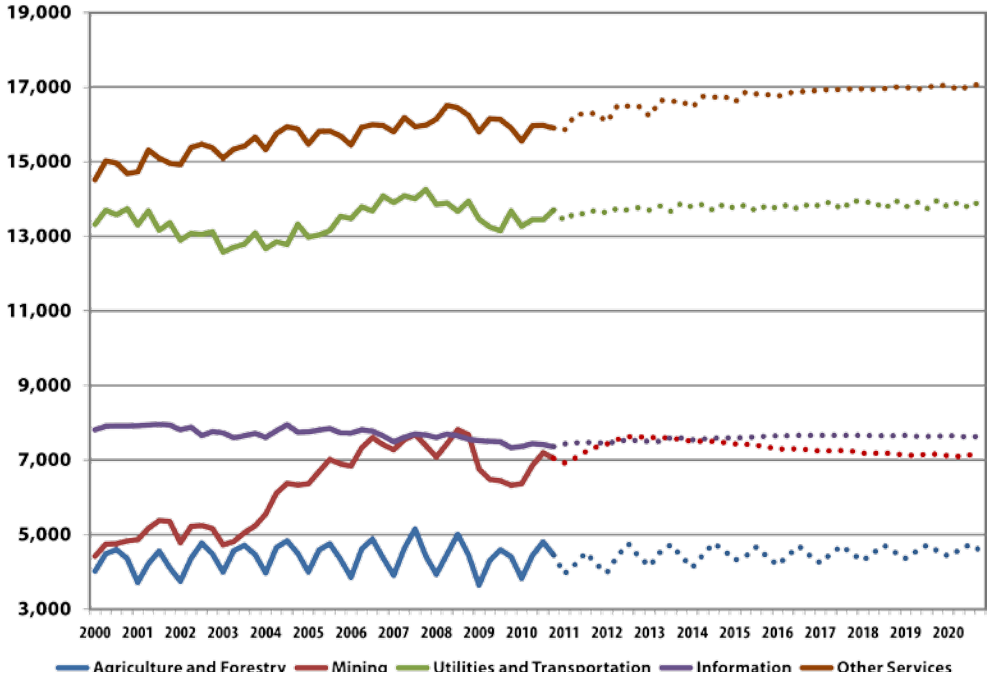
Montana's smaller industries are expected to have similar growth as in the past, particularly in the exporting industries of Agriculture, Mining, and Utilities. Demand for Montana's food and energy exports is expected to continue in the future as the world population continues to expand. The Other Services industry, which primarily consists of service-based businesses such as hair salons and spas, auto repair shops, and non-profit entities, relies on consumer spending for growth. Because consumer spending is expected to be low and slow growing in future years, employment growth in Other Services is also expected to be slow.

Figure A7: Projection Details, 2010 to 2020, Smaller Montana Industries

	Agriculture and Forestry	Mining	Utilities and Transportation	Information	Other Services
Industry Share of Total 2010 Employment	1.0%	1.6%	3.0%	1.7%	3.7%
Growth Rate, 1990 to 2010	0.4%	0.4%	0.5%	0.7%	2.5%
Projected Growth, 2010 to 2020	0.4%	0.4%	0.3%	0.3%	0.7%
Recession Job Loss	-152	-608	-597	-227	-127
Average Annual Job Growth, 2010 to 2020	20	26	39	25	117

The growth paths of the smaller industries are all fairly stable, with the exception of mining, which is very cyclical depending on global commodity prices, and transportation, which is relatively sensitive to economic fluctuations.

Figure A8: Employment Projections for Montana's Small Private industries



Montana

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